Next 1 Page(s) In Document Denied

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A DISCOVERY OF CORPUSCULE FLUXES BY MEANS OF THE THIRD SPUTNIK.

S U M M A R Y

1. With the object of discovering corpuscules the third Soviet Sputnik has been equipped with two indicators having fluorescent screens covered with aluminium foils of different thickness and phtoelectronic multipliers which register the radiation from the fluorescent screens. The fluorescent screen is of 2.10^{-3} gr cm^{-2}, the foil is of 4.10^{-4} gr cm^{-2} and 8.10^{-4} gr cm^{-2}.

2. The intensive signals from corpuscules going through the mentioned above aluminium foils have been registered. The intensity of signals strongly varied. The more Sputnik removed from the Earth the more the intensity grew and it was the greatest in the most removed points. It was also greater in the Polar regions than in the Equator ones. Sometimes the signals happened to increase or, on the contrary, to decrease and there were moments when the signals went off scale of the instrument.

3. The corpuscules registered are electrons of 10^4 ev. At the moment when the signals were off the scale the energy flux associated with the corpuscule fluxes reached 4.10^3 erg sec^{-1} steradian^{-1} cm^{-2}.

4. The electrons observed can't be a part of the primary corpuscule radiation of the Sun, since their velocity is too great as compared to the hydrogen corpuscules observed in auroras. These electrons seem to arise in electroconducting

circuits along the magnetic force lines in the outer atmosphere and in the lower layers effected by the magnetic fields freezed into the corpuscules fluxes of the Sun or interplanetary gas passing by the Earth. Acquiring a certain speed the electrons can oscillate along the crooked magnetic lines.

5. The same as a direct effect of the fast electromagnetic and corpuscule radiation of the Sun the mechanism like that can be conductive to the heating and ionization of the upper atmosphere.